

Fort Worth, Texas

New Issue Summary

Sale Date: June 8, 2021 via competitive sale

Series: \$138,450,000 General Purpose Refunding and Improvement Bonds, Series 2021; \$33,555,000 General Purpose Refunding Bonds, Taxable Series 2021; \$15,470,000 Combination Tax and Revenue Certificates of Obligation (COs), Series 2021; and \$15,020,000 Tax Notes, Series 2021C

Purpose: Bond proceeds will finance various municipal improvements and refund outstanding tax-supported debt. CO proceeds will finance street improvements. Note proceeds will finance public works improvements.

Security: Bonds, COs and notes are secured by the limited ad valorem tax. The COs are also backed by a limited pledge, not to exceed \$1,000, of surplus net revenues of the city's waterworks and sewer system.

The 'AA' Issuer Default Rating (IDR) and limited tax bond rating reflect the city's strong operating profile as well as solid economic and revenue growth prospects. The rating also incorporates elevated pressure on the expenditure flexibility assessment. Increasing pension contributions are driving carrying costs higher, which could weaken this assessment. The rating also reflects Fitch Ratings' expectation of budgetary adjustments to maintain a strong operating profile, as well as solid economic and revenue prospects as normal business conditions resume.

The Negative Outlook on the special tax revenue bonds is due to the sharp decline in pledged hotel occupancy tax (HOT) revenues for the latter part of fiscal years 2020 and first half of fiscal 2021 and the resulting diminished resilience cushion. While the city reports available reserves to assist with debt service payments on the series 2017A and series 2017B bonds for at least the next several years (currently reported at more than \$42 million, or nearly 3x MADS), a slower than expected economic recovery will require application of these monies for debt service and will limit options for future payments if hotel occupancy and venue operations are slow to rebound. The 'AA' rating reflects the currently solid resilience cushion and strong longer-term pledged revenue growth prospects.

Economic Resource Base: Fort Worth is a major anchor in the Dallas-Fort Worth regional economy with a population of more than 900,000. The metropolitan area employment base is extensive, and while military-related spending still accounts for a significant part of the local economy, recent gains in other sectors such as services, construction, and trade have diversified the labor force. In addition, ranching, manufacturing, technology, education, and aerospace are significant components of the Fort Worth area economy and serve to diversify economic activity. Post-pandemic economic prospects for the city and metropolitan area as a whole remain positive.

Key Rating Drivers

Revenue Framework: 'aaa': Post-pandemic growth prospects for revenue are strong, based on recent gains in taxable values and sales tax receipts as well as recent and planned economic development. The city's independent revenue-raising ability remains solid despite 2019 state legislation that imposed tighter restrictions on property tax rate increases.

Expenditure Framework: 'aa': The natural pace of spending growth is expected to be in line with to marginally above revenue growth as service demands continue to grow. Management retains solid overall expenditure flexibility, although carrying costs are trending higher due primarily to increasing pension contributions, largely a result of recent major reforms to the city's single-employer plan.

Ratings

Long Term Issuer Default Rating AA

New Issues

\$138,450,00 General Purpose and Refunding Bonds, Series 2021 AA \$33,555,000 General Purpose Refunding Bonds, Taxable 2021 AA \$15,470,000 Combination Tax and Revenue Certificates of Obligation, Series 2021 AA \$15,020,000 Tax Notes, Series 2021C AA

Outstanding Debt

Limited Tax Obligations AA
Special Tax Revenue Bonds AA

Rating Outlook

Limited Tax Obligations Stable
Special Tax Revenue Bonds Negative

Rating Outlook

Stable

Applicable Criteria

U.S. Public Finance Tax-Supported Rating Criteria (May 2021)

Related Research

Fitch Rates Fort Worth, TX's \$182MM LT Bonds, Tax Notes 'AA', Affirms IDR (May 2021)

Analysts

Steve Murray +1 512 215-3729 steve.murray@fitchratings.com

Emmanuelle Lawrence +1 512 215-3740 emmanuelle.lawrence@fitchratings.com



Long-Term Liability Burden: 'aa': The combination of overall debt and net pension liability (NPL) is moderate at 16% of personal income. Additional city and area capital needs will likely be accompanied by expansion of the resource base, moderating upward pressure on the liability burden.

Operating Performance: 'aaa': The city's sound financial resilience suggests the highest level of gap-closing capacity through a typical business cycle. The ongoing deferral of a portion of annual pension costs, even after incorporating the recent pension changes, somewhat weakens the budget management assessment.

Rating Sensitivities

Factors that could, individually or collectively, lead to positive rating action/upgrade:

IDR and Limited Tax Rating

• A closing of the current gap between actual and actuarially determined pension contributions (ADCs) and a reduction in the current projected 42-year amortization period to one closer to the 30-year industry standard.

Special Tax Revenue Bonds

 A sustained recovery in the local hospitality sector and pledged revenues that largely restores the pre-pandemic resilience cushion.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

IDR and Limited Tax Rating

- While not expected, an erosion of post-pandemic economic prospects that weakens the recently strong revenue growth trend.
- A reversal of the recent positive operating performance and resulting decline in resilience cushion below a level consistent with the 'AA' rating.
- An increase in the long-term liability burden that weakens the current assessment.

Special Tax Revenue Bonds

 A prolonged and/or weak recovery in the city's tourism sector and pledged revenues that would erode the currently solid resilience cushion.

Current Developments

The recently-enacted the American Rescue Plan (ARP) will provide \$3 billion in direct aid to state and local governments and additional funding for transit systems and school districts (through the states), as well as a significant amount of economic stimulus that should have a positive near-term impact on state and local government revenues. Fitch does not expect the stimulus aid to alter the long-term credit fundamentals of state and local governments, but it should bridge near-term fiscal gaps (for more information, see "ARP Boosts State and Local Government Budgets," dated March 2021). The city's allocation of ARP stimulus funds totals \$173.7 million. This assistance is in addition to the nearly \$190 million in coronavirus-related assistance received to date, of which management reports \$148.7 million has been spent on various operational and community assistance efforts.

Fiscal 2020 (FYE Sept. 30) audited general fund results bettered management's break-even projections of May 2020 after the pandemic-induced economic contraction began. While year-end revenue totals trailed budget, spending levels also were lower than budgeted. The combination resulted in a net surplus after transfers of more than \$30 million, increasing the unrestricted fund balance to \$187.2 million, or more than 25% of spending. Sales tax receipts totaled \$166 million, 3.5% below budget.

The adopted fiscal 2021 operating budget was balanced and included sales tax revenue of roughly \$168 million, 2.4% below the fiscal 2020 budget and 1.2% above fiscal 2020 actuals. General fund spending was budgeted at \$782 million, 1.3% above the fiscal 2020 budgeted

Rating History — IDR

| | • | | |
|--------|------------|-------------------|---------|
| Rating | Action | Outlook/ Watch | Date |
| AA | Affirmed | Stable | 5/17/21 |
| AA | Downgraded | Stable | 5/20/20 |
| AA+ | Affirmed | Negative | 5/17/18 |
| AA+ | Affirmed | Stable | 7/30/12 |
| AA+ | Affirmed | Positive | 8/4/11 |
| AA+ | Revised | Stable | 4/30/10 |
| AA | Downgraded | Stable | 8/9/07 |
| AA+ | Affirmed | Stable | 3/14/03 |
| AA+ | Upgraded | _ | 5/23/00 |
| AA | Assigned | _ | 8/20/92 |
| | | | |



total. Management currently anticipates both general fund revenues and expenditures to end the year generally in line with budget and expects break-even results. Sales tax receipts are also expected to approximate the budgeted amount at fiscal year-end.

Credit Profile

The city registered solid gains recently in employment, building permits, tax base and sales tax revenues in conjunction with overall regional economic gains; that pattern is expected to continue as normal business activity resumes. Fort Worth's population continues to grow (up more than 20% since the 2010 census). In addition, the city's extra-territorial jurisdiction is sizable and provides opportunity for future annexation and growth.

A number of commercial, residential and industrial projects in the city have been completed or announced in recent months. Gulfstream Aerospace Corp. announced the relocation of production and maintenance facilities from Dallas Love Field to the city's Alliance Airport by fall 2021. Miller-Coors and Alcon Vision are both expanding their local operations, and Ariat Bootmakers recently relocated its 800,000 square-foot headquarters to Fort Worth. Notable residential and mixed-use projects either underway or in the planning stage include Rock Creek Ranch, Panther Island, the Mule Alley project at the Fort Worth Stockyards, and the Trinity Lakes area.

Employment totals also had been trending positively prior to the pandemic-induced shutdown, registering average annual gains of more than 2.5% since 2013. Taxable values have registered annual gains each of the past 10 years, and the fiscal 2021 taxable valuation totals \$81.3 billion, up more than 5% from the prior year.

Revenue Framework

Property and sales taxes are the dominant operating revenue sources for Fort Worth, comprising 60% and 23% of fiscal 2020 general fund revenues, respectively. Licenses and permits is the next largest category at roughly 9% of general fund revenues.

The city's historical revenue performance over the last ten years (fiscal years 2010-2020) — adjusted for tax rate changes — registered a 4.8% CAGR, above U.S. GDP growth over the same period. Revenue growth accelerated over the past five years, registering average annual gains of 6%. Given recent revenue trends and anticipated post-pandemic economic activity, future revenue growth will likely sustain this strong pattern.

Fort Worth retains a significant margin below its statutory and city charter property tax limitations. However, the recently enacted Texas Senate Bill 2 (SB 2) made a number of changes to local governments' property tax rate setting process. Most notably, SB 2 reduced the rollback tax rate (now the "voter approval tax rate") to 3.5% from 8% for most local taxing units and requires a ratification election (replacing the current petition process) if any local taxing unit exceeds its voter approval rate.

The tax rate limitation in SB2 excludes new additions to tax rolls and allows for banking of any unused margin for up to three years. Fort Worth's remaining control over property taxes and other local revenues, such as fines, fees, licenses and permits, is still sufficient to maintain substantial revenue-raising flexibility.

Expenditure Framework

As is the case with many cities, public safety is the largest general fund cost driver, comprising 63% of fiscal 2020 spending. General government (15%) and culture and recreation (9%) were the next largest spending components.

Fitch expects spending growth will largely track revenue trends as normal economic activity resumes, as an expanding population and area economy will generate increased service demands. Additional spending pressure will come from pension contributions, which have fallen short of actuarially determined amounts recently and will be increasing.

Carrying costs (debt service and retiree benefit contributions) have been trending higher and totaled 26% of fiscal 2020 governmental spending. The recent pension reform package calls for increases in city contributions (in addition to larger employee contributions), but the outlays will still fall short of actuarially determined amounts. Further reform measures will be necessary



to close the gap between actuarial and actual contribution amounts. Assuming a more conservative 5% discount rate and 20-year pension amortization period would result in a more than 40% increase in total carrying costs under Fitch's benchmark pension contribution methodology.

A favorable workforce assessment and rapid pace of debt amortization somewhat temper the carrying cost concern, and the city retains flexibility regarding annual pay-go capital spending. Management has demonstrated budgetary maneuverability in prior recessionary periods and will be expected to do so again through future business cycles.

Long-Term Liability Burden

Fort Worth's long-term liability burden (overall debt and the Fitch adjusted NPL) is moderate at 16% of total personal income. Overlapping debt — primarily issued by area school districts — is the primary driver of the total and at \$3.36 billion comprises roughly 50% of the total liability burden. A portion of the series 2021 general purpose and refunding bonds will finance streets, parks and public safety improvements approved by voters at a 2018 election. Approximately \$166 million will remain in authorized but unissued debt following this sale.

The city maintains a single employer pension plan for retirees. In its fiscal 2020 financial statements the city reported a total plan liability (governmental activities) of \$3.97 billion and assets of \$2.0 billion, resulting in a NPL of \$1.96 billion (assets covering 50% of the liability). Using Fitch's more conservative 6% investment rate assumption increases the NPL to \$2.46 billion and reduces the funding ratio to 45%.

This latest step in a series of measures to ensure the pension plan's sustainability began in 2015 when the city appointed a pension review committee composed of plan stakeholders and citizens. The committee proposed a series of plan changes that addressed both benefit levels and contribution amounts. The city council approved the reform package in December 2018, and after a series of informational meetings, 74% of voting city employees approved the changes in early 2019.

Highlights of the reform measure are:

- sizable increases in both city and employee contributions;
- elimination of COLA for future service effective July 20, 2019;
- variable COLA for active eligible employees based on plan performance;
- a risk sharing provision that, beginning in fiscal 2022, requires city and employee contributions to each increase by 2% of pay annually (maximum aggregate increase capped at 4% of pay) if actual contributions fall short of the actuarially determined amount for two consecutive years (assuming a 30-year closed amortization period and a discount rate calculated by averaging a rate provided by two independent sources);
- a reduction in the plan discount rate from 7.75% to 7%.

A recent actuarial study that includes these plan changes noted that initial contribution increases will still leave total contributions below actuarially determined amounts. The study projected the additional contributions required under the risk sharing provision and ad hoc COLAs, along with recent demographic changes, result in an amortization period of 42 years (at the assumed 7% discount rate). Acknowledging that this projected amortization period extends beyond industry norms and the plan objectives detailed in the city code, management anticipates additional plan adjustments in the future.

OPEB benefits are limited to employees hired before Jan. 1, 2009, and the city has established a trust for this obligation. Assets in the trust at September 30, 2019 were valued at roughly \$86 million, or 8% of the total OPEB liability; the net OPEB liability represents 2% of total personal income.

Operating Performance

The Fitch Analytical Stress Test (FAST) scenario analysis tool relates historical tax revenue volatility to GDP to support the assessment of operating performance under Fitch's criteria.



FAST is not a forecast, but it represents Fitch's estimate of possible revenue behavior in a downturn, based on historical revenue performance. Hence, actual revenue will vary from FAST results, and Fitch expects the city will implement necessary corrective actions to offset them. FAST provides a relative sense of the risk exposure of a particular local government compared to other U.S. local governments.

FAST results indicate limited pressure on the city's financial resilience in the medium term, even absent policy interventions. Fitch expects that management will respond to the current environment with budgetary adjustments that will maintain reserve levels consistent with a 'aaa' resilience assessment. The city has exhibited an ability and willingness to reduce spending during previous downturns and retains budgetary tools (e.g. staffing levels, capital spending deferment) to respond to changing economic conditions. This demonstrated budgetary management is an important consideration given near-term additional annual pension contributions (per the recent reform measure).

The budget management assessment is negatively affected by the continued funding of the city's pension obligation below the ADC. Preliminary fiscal 2022 budget information indicates the city will implement the additional city and employee contributions as outlined in the risk sharing provision of the recent pension reform package.

Dedicated Tax Key Rating Drivers

Strong Long-Term Revenue Growth Prospects: Pledged revenue growth had been strong prior to the pandemic, with a 10-year CAGR of HOT revenues through fiscal 2019 of more than 7%. Fitch expects the pace of growth to accelerate from currently suppressed levels as normal business activity resumes, although the timing remains uncertain.

Solid Resilience Expected: The bonds' debt service cushion has been negatively affected by the current contraction in the hospitality and event sectors and uncertainty regarding the strength and timing of recovery. Acknowledging this uncertainty, Fitch expects the pledged revenue stream eventually to exhibit resilience and sensitivity to economic swings consistent with the pre-pandemic assessment. The city does not anticipate additional leveraging, as the project has been completed.

Dedicated Tax Credit Profile

Pledged revenues consist of the city's combined 9% HOT, incremental state hotel occupancy and sales and use taxes collected within a specified project financing zone, and airport-shared revenues. The bonds are also payable from certain anticipated venue-generated tax revenues, the pledge in relation to the series 2017A bonds limited to 5% of debt service in a given year.

Pledged HOT revenues registered strong pre-pandemic growth, with a 10-year CAGR through fiscal 2019 of 7.1%. Fiscal 2019 HOT revenues totaled \$30.9 million, up 5% from the prior year; total pledged revenues were \$39.8 million, up 16% from fiscal 2018. The pandemic-induced economic contraction produced a sharp 38% drop in fiscal 2020 HOT revenues to \$19.3 million; additional pledged revenues brought the annual total to \$32.5 million, down nearly 19% from the prior year. Management projects a modest 10% increase for fiscal 2021 HOT revenues but a dip in total pledged revenues to \$27.4 million due to a decline in airport-shared revenues. Longer-term revenue growth prospects remain strong.

To evaluate the sensitivity of tourism tax pledged revenues in the current environment, Fitch applies a revenue stress test of 45% to the latest pre-pandemic annual totals. The revenue stress is based on Fitch's revenue per available room rate (RevPAR) forecast for 2021.

The fiscal 2019 pledged revenue total of \$39.8 million could withstand a more than 60% decline and cover 1.0x MADS (\$14.9 million in 2023). This cushion exceeds the 45% sector stress. The lower fiscal 2020 revenue total of \$32.5 million could withstand another 54% drop before reaching 1x MADS.

Management reports approximately \$42 million in reserves that are available for debt service support if necessary. The combination of the debt service cushion and available monies generates a near-term solid resilience assessment. The 'AA' rating on outstanding special tax revenue bonds incorporates this analytical conclusion.





ESG Considerations

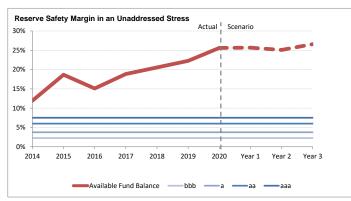
The highest level of ESG credit relevance, if present, is a score of 3. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or to the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.



Fort Worth (TX)

Scenario Analysis

Ver 45



Analyst Interpretation of Scenario Results

The Fitch Analytical Stress Test (FAST) scenario analysis tool relates historical tax revenue volatility to GDP to support the assessment of operating performance under Fitch's criteria. FAST is not a forecast, but it represents Fitch's estimate of possible revenue behavior in a downturn, based on historical revenue performance. Hence, actual revenue will vary from FAST results, and Fitch expects the city will implement necessary corrective actions to offset them. FAST does provide a relative sense of the risk exposure of a particular local government compared to other U.S. local governments. FAST results indicate limited pressure on the city's financial resilience in the medium term, even absent policy interventions. Fitch expects that management will respond to the current environment with budgetary adjustments that will maintain reserve levels consistent with a 'aaa' resilience assessment.

| Scenario Parameters: | | | | | | | | Year 1 | Year 2 | Year 3 |
|---|---------------------|---------------------|---------------------|-------------------------|---------------------|---------------------|---------------------|-----------------------------|---------------------------|---------------------------|
| GDP Assumption (% Change) | | | | | | | | (1.0%) | 0.5% | 2.0% |
| Expenditure Assumption (% Change) | | | | | | | | 2.0% | 2.0% | 2.0% |
| Revenue Output (% Change) | Mir | 1 Y1 Stress: | -1% | (| Case Used: | Moderate | | (1.5%) | 1.3% | 4.1% |
| Inherent Budget Flexibility | | | | | | | | Midrange | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Revenues, Expenditures, and Fund Balance | | | | Actuals | | | | Sce | nario Output | t |
| Revenues, Expenditures, and Fund Balance | 2014 | 2015 | 2016 | Actuals 2017 | 2018 | 2019 | 2020 | Sce Year 1 | nario Output Year 2 | t Year 3 |
| Revenues, Expenditures, and Fund Balance Total Revenues | 2014 518,037 | 2015 542,710 | 2016 569,916 | | 2018 634,378 | 2019 686,012 | 2020 722,229 | | | Year 3 |
| | | | | 2017 | | | | Year 1 | Year 2 | Year 3 750,548 |
| Total Revenues | 518,037 | 542,710 | 569,916 | 2017 596,168 | 634,378 | 686,012 | 722,229 | Year 1 711,378 | Year 2 720,743 | Year 3 750,548 4.1% |
| Total Revenues % Change in Revenues | 518,037 - | 542,710 4.8% | 569,916 5.0% | 2017 596,168 4.6% | 634,378 6.4% | 686,012 8.1% | 722,229 5.3% | Year 1 711,378 (1.5%) | Year 2 720,743 1.3% | |

| | , | , | , | , | , | , | , | , | , | , | |
|--|----------|-----------------------------|---------|---------|---------|----------|----------|----------|----------|----------|--|
| % Change in Revenues | | 4.8% | 5.0% | 4.6% | 6.4% | 8.1% | 5.3% | (1.5%) | 1.3% | 4.1% | |
| Total Expenditures | | 549,049 | 565,732 | 590,546 | 615,266 | 654,818 | 662,439 | 675,688 | 689,202 | 702,986 | |
| % Change in Expenditures | - | (0.8%) | 3.0% | 4.4% | 4.2% | 6.4% | 1.2% | 2.0% | 2.0% | 2.0% | |
| Transfers In and Other Sources | 58,512 | 68,788 | 42,554 | 57,528 | 50,465 | 46,777 | 38,943 | 38,358 | 38,863 | 40,470 | |
| Transfers Out and Other Uses | 98,244 | 23,930 | 39,378 | 59,622 | 52,325 | 56,875 | 68,369 | 69,736 | 71,131 | 72,554 | |
| Net Transfers | (39,732) | 44,858 | 3,176 | (2,094) | (1,860) | (10,098) | (29,426) | (31,378) | (32,268) | (32,084) | |
| Bond Proceeds and Other One-Time Uses | | - | - | - | - | - | - | - | - | - | |
| | | | | | | | | | | | |
| Net Operating Surplus/(Deficit) After Transfers | (75,293) | 38,519 | 7,360 | 3,528 | 17,252 | 21,096 | 30,364 | 4,312 | (726) | 15,479 | |
| Net Operating Surplus/(Deficit) (% of Expend. and Transfers Out) | (11.6%) | 6.7% | 1.2% | 0.5% | 2.6% | 3.0% | 4.2% | 0.6% | (0.1%) | 2.0% | |
| | | | | | | | | | | | |
| Unrestricted/Unreserved Fund Balance (General Fund) | 77,817 | 106,981 | 91,360 | 122,610 | 137,177 | 158,436 | 187,150 | 191,462 | 190,736 | 206,215 | |
| Other Available Funds (GF + Non-GF) | | - | - | - | - | - | - | - | - | - | |
| Combined Available Funds Balance (GF + Other Available Funds) | 77,817 | 106,981 | 91,360 | 122,610 | 137,177 | 158,436 | 187,150 | 191,462 | 190,736 | 206,215 | |
| Combined Available Fund Bal. (% of Expend. and Transfers Out) | 11.9% | 18.7% | 15.1% | 18.9% | 20.5% | 22.3% | 25.6% | 25.7% | 25.1% | 26.6% | |
| Reserve Safety Margins | | Inherent Budget Flexibility | | | | | | | | | |
| Moderate | | Minimal | | Limited | | Midrange | | High | | Superior | |
| Reserve Safety Margin (aaa) | | 24.0% | | 12.0% | | 7.5% | | 4.5% | | 3.0% | |
| Reserve Safety Margin (aa) | | 18.0% | | 9.0% | | 6.0% | | 3.8% | | 2.3% | |
| Reserve Safety Margin (a) | | 12.0% | | 6.0% | | 3.8% | | 2.3% | | 2.0% | |
| Reserve Safety Margin (bbb) | | 4.5% | | 3.0% | | 2.3% | | 2.0% | | 2.0% | |
| | | | | | | | | | | | |

Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch's scenario analysis assumes the GDP and expenditure growth sequence shown in the 'Scenario Parameters' section. Inherent budget flexibility is the analyst's assessment of the issuer's ability to deal with fiscal stress through tax and spending policy choices, and determines the multiples used to calculate the reserve safety margin. For further details, please see Fitch's US Tax-Supported Rating Criteria.



The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.

ALL FITCH CREDIT RATINGS ARE SUBJECT TO CERTAIN LIMITATIONS AND DISCLAIMERS. PLEASE READ THESE LIMITATIONS AND DISCLAIMERS BY FOLLOWING THIS LINK: HTTPS://FITCHRATINGS.COM/UNDERSTANDINGCREDITRATINGS. IN ADDITION, RATING DEFINITIONS AND THE TERMS OF USE OF SUCH RATINGS ARE AVAILABLE ON THE AGENCY'S PUBLIC WEB SITE AT WWW.FITCHRATINGS.COM. PUBLISHED RATINGS, CRITERIA, AND METHODOLOGIES ARE AVAILABLE FROM THIS SITE AT ALL TIMES. FITCH'S CODE OF CONDUCT, CONFIDENTIALITY, CONFLICTS OF INTEREST, AFFILIATE FIREWALL, COMPLIANCE, AND OTHER RELEVANT POLICIES AND PROCEDURES ARE ALSO AVAILABLE FROM THE CODE OF CONDUCT SECTION OF THIS SITE. FITCH MAY HAVE PROVIDED ANOTHER PERMISSIBLE SERVICE TO THE RATED ENTITY OR ITS RELATED THIRD PARTIES. DETAILS OF THIS SERVICE FOR WHICH THE LEAD ANALYST IS BASED IN AN ESMA- OR FCA-REGISTERED FITCH RATINGS COMPANY (OR BRANCH OF SUCH A COMPANY) CAN BE FOUND ON THE ENTITY SUMMARY PAGE FOR THIS ISSUER ON THE FITCH RATINGS WEBSITE.

 $Copyright @\ 2021\ by\ Fitch\ Ratings, Inc., Fitch\ Ratings\ Ltd.\ and\ its\ subsidiaries.\ 33\ Whitehall\ Street, NY, NY\ 10004.\ Telephone:\ 1-800-753-4824, (212)\ 908-0500.\ Fax:\ (212)\ 480-4435.\ Reproduction\ or\ retransmission\ in\ whole\ or\ in\ part\ is\ prohibited\ except\ by\ permission.\ All\ rights$ reserved. In issuing and maintaining its ratings and in making other reports (including forecast information), Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction. The manner of Fitch's factual investigation and the scope of the third-party verification it obtains will vary depending on the nature of the rated security and its issuer, the requirements and practices in the jurisdiction in which the rated security is offered and sold and/or the issuer is located, the availability and nature of relevant public information, access to the management of the issuer and its advisers, the availability of pre-existing third-party verifications such as audit reports, agreed-upon procedures letters, appraisals, actuarial reports, engineering reports, legal opinions and other reports provided by third parties, the availability of independent and competent third-party verification sources with respect to the particular security or in the particular jurisdiction of the issuer, and a variety of other factors. Users of Fitch's ratings and reports should understand that neither an enhanced factual investigation nor any third-party verification can ensure that all of the information Fitch relies on in connection with a rating or a report will be accurate and complete. Ultimately, the issuer and its advisers are responsible for the accuracy of the information they provide to Fitch and to the market in offering documents and other reports. In issuing its ratings and its reports, Fitch must rely on the work of experts, including independent auditors with respect to financial statements and attorneys with respect to legal and tax matters. Further, ratings and forecasts of financial and other information are inherently forward-looking and embody assumptions and predictions about future events that by their nature cannot be verified as facts. As a result, despite any verification of current facts, ratings and forecasts can be affected by future events or conditions that were not anticipated at the time a rating or forecast was issued or affirmed

The information in this report is provided "as is" without any representation or warranty of any kind, and Fitch does not represent or warrant that the report or any of its contents will meet any of the requirements of a recipient of the report. A Fitch rating is an opinion as to the creditworthiness of a security. This opinion and reports made by Fitch are based on established criteria and methodologies that Fitch is continuously evaluating and updating. Therefore, ratings and reports are the collective work product of Fitch and no individual, or group of individuals, is solely responsible for a rating or a report. The rating does not address the risk of loss due to risks other than credit risk, unless $such risk is specifically mentioned. \ Fitch is not engaged in the offer or sale of any security. \ All Fitch reports have shared authorship. \ Individuals$ identified in a Fitch report were involved in, but are not solely responsible for, the opinions stated therein. The individuals are named for contact purposes only. A report providing a Fitch rating is neither a prospectus nor a substitute for the information assembled, verified and presented to investors by the issuer and its agents in connection with the sale of the securities. Ratings may be changed or withdrawn at any time for any reason in the sole discretion of Fitch. Fitch does not provide investment advice of any sort. Ratings are not a recommendation to buy, sell, or hold any security. Ratings do not comment on the adequacy of market price, the suitability of any security for a particular investor, or the taxexempt nature or taxability of payments made in respect to any security. Fitch receives fees from issuers, insurers, guarantors, other obligors, and underwriters for rating securities. Such fees generally vary from US\$1,000 to US\$750,000 (or the applicable currency equivalent) per issue. In certain cases, Fitch will rate all or a number of issues issued by a particular issuer, or insured or guaranteed by a particular insurer or guarantor, for a single annual fee. Such fees are expected to vary from US\$10,000 to US\$1,500,000 (or the applicable currency equivalent). The assignment, publication, or dissemination of a rating by Fitch shall not constitute a consent by Fitch to use its name as an expert in connection with any registration statement filed under the United States securities laws, the Financial Services and Markets Act of 2000 of the United Kingdom, or the securities laws of any particular jurisdiction. Due to the relative efficiency of electronic publishing and distribution, Fitch research may be available to electronic subscribers up to three days earlier than to print subscribers

For Australia, New Zealand, Taiwan and South Korea only: Fitch Australia Pty Ltd holds an Australian financial services license (AFS license no. 337123) which authorizes it to provide credit ratings to wholesale clients only. Credit ratings information published by Fitch is not intended to be used by persons who are retail clients within the meaning of the Corporations Act 2001.